

## DEFINITIONS

### Active Device

A discrete electronic component whose state (conductive) properties change when subjected to the application of an applied electrical signal (i.e.: diode, integrated circuit, transistor, etc.).

### Attenuation

A reduction of signal amplitude (power), measured in decibels (db).

### Best Workmanship Practice

A procedure, practice, or process attribute that has been demonstrated through use and experience, to result in a robust design and high reliability; but, which has not been identified as a specific attribute / requirement in the NASA Technical Standard series, NASA-STD-8739.

### Blind Via

A via (plated-through hole) that extends to only one surface (primary / secondary) of a multilayer printed wiring board, with the other end terminating to an internal plane or land.

### Breakdown / Rolloff

A surface irregularity associated with fiber optics, characterized by an angular shearing of a portion of the endface resulting in a rounded edge.

### Buried Via

A via (plated-through hole) that does not extend to either surface of a multilayer printed wiring board, but instead terminates to internal planes / lands.

### Chip-On-Board (COB)

A printed wiring board assembly process in which unpackaged die (or dice) are bonded to the board surface, and interconnected to the surrounding printed circuitry and/or adjacent die by wire bonding techniques.

### Component Side

The primary side of a printed wiring board, from which through-hole components are typically inserted and which is opposite the solder application side of the board in solder wave assembly processes. The majority of the active circuit components typically populate the component / primary side. See also "Solder Side".

### Dead-Bug

An industry nickname for the discrete components added and wired into a printed wiring assembly (PWA) to facilitate circuit modifications, rather than redesign and manufacture a new board. The nickname comes from their general appearance on the board: upside down, with their termination leads (legs) up in the air – like a dead bug.

### Dice

Two or more die.

## DEFINITIONS (cont.)

### Passive Device

A discrete electronic component whose state properties do not change when subjected to the application of an applied electrical signal (i.e.: resistor, capacitor, inductor, etc.).

### Piggyback

The mounting of components on top of each other.

### Pink Ring

A defect condition where the conductive layer around a through-hole / inner-layer interface has been stripped of its copper oxide coating, producing a "pinkish" coloration.

### Popcorn

Popcorning is caused by the release of gas pressure entrapped in the component body during the soldering process. The effect can be relatively mild (body deformation) or can be destructive (seal breach or delidding). Popcorning is typically seen in plastic bodied devices that were exposed to an uncontrolled, high humidity environment during storage and/or assembly prior to soldering.

### Primary Side

See "Component Side".

### Reflow Soldering

The process of mass soldering a printed wiring assembly in which all (or a majority) of the components have been installed with a solder tinning, solder paste, or solder preform deposit between the component lead(s) and the land, and where the soldering process is completed by exposing the entire assembly to a heated environment sufficient to cause the solder deposits to flow.

### Secondary Side

See "Solder Side".

### Shadowing

A defect caused by the "blocking effect" of a component or other physical obstruction during the spray application of conformal coating, resulting in improper thickness or incomplete coverage.

### Single-Sided Printed Wiring Board

A printed wiring board with a conductive pattern on only on side, typically the secondary (solder) side.

### Solder Side

The secondary side of a printed wiring board, which is typically exposed to the application of solder during a mass soldering process (i.e. solder wave or solder fountain).

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## DEFINITIONS (cont.)

### Underfill

A polymeric substance injected under an electronic component to provide mechanical support and thermal conductivity.

### Via

A plated through hole that is used as an interlayer electrical connection, but is sized to prevent the insertion of component lead or other reinforcing material.

## DEFINITIONS (cont.)

### Die

The basic, leadless form of an electronic component (active, passive, or integrated circuit) supplied on a silicon substrate / chip.

### Discrete Component

A separate component that performs a single circuit function (i.e.: resistor, capacitor, diode, transistor, etc.).

### Double-Sided Assembly

A printed wiring assembly (either double-side or multi-layer) with components mounted on both the primary (component) and secondary (solder) sides.

### Drain Wire

An uninsulated wire that is used for the electrically conductive termination of a foil mylar shield or ground plane.

### Edge Flash

A thin layer of insulation that is produced during the stripping of insulated conductors.

### Fiducial Mark

An artwork feature that provides a visual guide for component orientation and mounting.

### Hackle

A surface irregularity associated with fiber optics, and characterized by a jagged, rippled, or stepped break in the fiber face, similar in appearance to a stepped mountain range or the rough fur on a dog's back.

### Haywire

A discrete conductor used to facilitate minor circuit modifications to printed wiring assemblies (PWA), rather than redesign and manufacture a new board. (a.k.a.: white wire, jumper).

### Key

A mechanical device or feature in addition to, or in lieu of, a polarization feature that ensures the coupling of identical connectors / components can occur in only one orientation and only to similar keyed connectors / components.

### Mist

See "Hackle"

### Mixed Technology

A surface mount term, referring to the use of through-hole and surface mount components on the same printed wiring assembly.

### Multilayer Printed Wiring Board

A rigid, flexible, or rigid-flex printed wiring board having three or more printed wiring board layers that are mechanically bonded together and electrically interconnected.

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